

Page 13 - Reference numerals

- 1 — Gearwheel arrangement
- 2 — First planetary gearwheel assembly
- 3 — Second planetary gearwheel assembly
- 4 — Table
- 5 — Transmission input shaft
- 6 — Annular gearwheel of the first planetary gearwheel assembly
- 7 — Outer disc carrier of the shift control element E
- 8 — Sunwheel of the first planetary gearwheel assembly
- 9 — Planetary gearwheel of the first planetary gearwheel assembly
- 10 — Planetary gearwheel support of the first planetary gearwheel assembly
- 11 — Transmission housing
- 12 — Outer disc carrier of shift control element B
- 13 — Component of shift control element A
- 14 — Inner disc carrier of shift control element E
- 15 — Planetary gearwheel support of the second planetary gearwheel assembly
- 16 — Gearshift sleeve of shift control element A
- 17 — Small sunwheel of the second planetary gearwheel assembly
- 18 — Inner disc carrier of shift control element B
- 19 — Large sunwheel of the second planetary gearwheel assembly
- 20 — Inner disc carrier of shift control element C
- 21 — Outer disc carrier of shift control element C
- 22 — Gearshift sleeve of shift control element D
- 23 — Annular gearwheel of the second planetary gearwheel assembly
- 24 — Wide planetary gearwheels of the second planetary gearwheel assembly
- 25 — Narrow planetary gearwheels of the second planetary gearwheel assembly
- 26 — Transmission output shaft
- 27 — Component of shift control element D
- 28 to 33 — Spur gear stages
- 34 — Countershaft
- A to E — Shift control elements of the planetary transmission
- F, G, H,
- I, K, L, M — Shift control elements of the change-under-load countershaft transmission

1-12. (CANCELED)

13. (CURRENTLY AMENDED) An automatic transmission comprising:

a plurality of shift control elements (A, B, C, D, E; F, G, H, I, K, L, M) and gearwheels (2, 3; 28 to 33) which can be engaged by ~~means of~~ the shift control elements to form a power flow through the transmission;

a transmission ratio established by ~~closing~~ engaging at least one of the shift control elements (A to E; F, G, H, I, K, L, M); and

a first group of the shift control elements (B, C, E; F, G, H, K) being frictional shift control elements with at least one of the first group of the shift control elements being ~~which are~~ engaged for an up-shift from first gear, are frictional shift control elements; ~~and a second group of the shift control elements (A, D; L, M), which during the up-shift constitute only a shift control element to be disengaged;~~ are positive-locking shift control elements, and for engagement of first gear, only two of the positive-locking shift control elements (A, D; L, M) of the second group are engaged, and for upshifts from first gear the positive-locking shift control elements (A, D; L, M) are only selectively disengaged.

14. (PREVIOUSLY PRESENTED) The automatic transmission according to claim 13, further comprising at least one of a planetary gearwheel assembly (2, 3) and a spur gear stage (28 to 33).

15. (CURRENTLY AMENDED) The automatic transmission according to claim 13, wherein

the up-shift can be carried out as a ~~change-under-load~~ powershift.

16. (CURRENTLY AMENDED) The automatic transmission according to claim 13, wherein the positive-locking shift control elements (A, D; L, M) can be ~~closed~~ engaged to transmit torque in both rotation directions.

17. (CURRENTLY AMENDED) The automatic transmission according to claim 13, wherein at least one of the positive-locking shift control elements (A and D; L and M) is ~~made as~~ a claw coupling.

18. (WITHDRAWN) The automatic transmission according to claim 13, wherein at least one of the positive-locking shift control elements (A and D; L and M) is ~~made as~~ a synchromesh device.

19. (CURRENTLY AMENDED) The automatic transmission according to claim 13, wherein the positive-locking shift control elements (A and D; L and M) ~~can be~~ are actuated one of mechanically ~~[[or]]~~ and hydraulically.

20. (CURRENTLY AMENDED) The automatic transmission according to claim 13, wherein at least one of the plurality of shift control elements (C, D) is ~~made as a~~ brake. ♦

21. (CURRENTLY AMENDED) The automatic transmission according to claim 13, further comprising at least one multiple-shaft planetary transmission (2, 3)[[, at]] in which one of a power ~~branching~~ split and a power summation takes place[[],] so that a defined transmission ratio can be established. ♦

22. (PREVIOUSLY PRESENTED) The automatic transmission according to claim 21, wherein the at least one multiple shaft planetary transmission (3) is formed as a dual planetary gearwheel assembly.

23. (CURRENTLY AMENDED) The automatic transmission according to claim 13, wherein the shift control elements (B, C, E; F, G, H, I, K) which are engaged during a ~~traction~~-up-shift and are disengaged during a ~~traction~~ down-shift, are formed as frictional shift control elements. ♦

24. (CANCELED)

25. (NEW) An automatic transmission comprising:
a plurality of shift control elements (A, B, C, D, E; F, G, H, I, K, L, M) and gearwheels (2, 3; 28 to 33) which can be engaged by the shift control elements to form a power flow through the transmission;

a transmission ratio established by engaging at least one of the shift control elements (A to E; F, G, H, I, K, L, M); and

a first group of the shift control elements (B, C, E; F, G, H, K) being frictional shift control elements and a second group of the shift control elements (A, D; L, M) being positive-locking shift control elements; for engagement of first gear, only two of the positive-locking shift control elements (A, D; L, M) of the second group are engaged, and for each sequential upshift from first gear, (1) only two of the shift control elements (A to E; F, G, H, I, K, L, M) are engaged, (2) only a single previously engaged shift control element (A to E; F, G, H, I, K, L, M) remains engaged for a next subsequent higher gear, and (3) the other previously engaged shift control element (A to E; F, G, H, I, K, L, M) is disengaged and only one other shift control element (A to E; F, G, H, I, K, L, M) is engaged for the next subsequent higher gear.

26. (NEW) The automatic transmission according to claim 25, further comprising at least one of a planetary gearwheel assembly (2, 3) and a spur gear stage (28 to 33), and the up-shift can be carried out as a powershift.

27. (NEW) The automatic transmission according to claim 25, wherein the positive-locking shift control elements (A, D; L, M) can be engaged to transmit torque in both rotation directions.

28. (NEW) The automatic transmission according to claim 25, wherein at least one of the positive-locking shift control elements (A and D; L and M) is one of a claw coupling and a synchromesh device.

29. (NEW) The automatic transmission according to claim 25, wherein the positive-locking shift control elements (A and D; L and M) are actuated one of mechanically and hydraulically.

30. (NEW) The automatic transmission according to claim 25, wherein at least one of the plurality of shift control elements (C, D) is a brake.

31. (NEW) The automatic transmission according to claim 25, further comprising at least one multiple-shaft planetary transmission (2, 3) in which one of a power split and a power summation takes place so that a defined transmission ratio can be established; and

the at least one multiple shaft planetary transmission (3) is formed as a dual planetary gearwheel assembly.

32. (NEW) The automatic transmission according to claim 25, wherein the shift control elements (B, C, E; F, G, H, I, K) which are engaged during a up-shift and are disengaged during a down-shift, are formed as frictional shift control elements.

33. (NEW) An automatic transmission comprising:

a plurality of shift control elements (A, B, C, D, E; F, G, H, I, K, L, M) and gearwheels (2, 3; 28 to 33) which can be engaged by the shift control elements to form a power flow through the transmission;

a transmission ratio established by engaging at least one of the shift control elements (A to E; F, G, H, I, K, L, M); and

a first group of the shift control elements (B, C, E; F, G, H, K) being frictional shift control elements and a second group of the shift control elements (A, D; L, M) being positive-locking shift control elements; for engagement of first gear, only two of the positive-locking shift control elements (A, D; L, M) of the second group are engaged, and for each sequential upshift from first gear, (1) only two of the shift control elements (A to E; F, G, H, I, K, L, M) are engaged, (2) only a single previously engaged shift control element (A to E; F, G, H, I, K, L, M) remains engaged for a next subsequent higher gear, and (3) the other previously engaged shift control element (A to E; F, G,

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H, I, K, L, M) is disengaged and only one other shift control element (A to E; F, G, H, I, K, L, M) is engaged for the next subsequent higher gear; and

during each down-shift from a highest gear to the first gear, only the frictional shift control elements of the first group of the shift control elements (B, C, E; F, G, H, K) being disengaged.